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13

# PATIENT-NURSE DEPENDENCY GYNAECOLOGY

*Issued by the Operational Research Unit*
*of the Department of Health*
*Wellington, New Zealand*

1963

DEPARTMENT OF HEALTH

# PATIENT-NURSE DEPENDENCY GYNAECOLOGY

*An Analysis of Survey Data from Three Public Hospitals in Christchurch 1962*

by

THE OPERATIONAL RESEARCH UNIT

| | |
|---|---|
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| Mr L. V. Chaplin | Work Study Member |
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# CONTENTS

Contents Continued

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# FOREWORD

by Dr H. B. Turbott, I.S.O., M.B., Ch.B., D.P.H.,
Director-General of Health

This report is one of a series concerned with a survey of patient nurse dependency made in three hospitals administered by the North Canterbury Hospital Board by the Operational Research Unit with the active co-operation of the Board.

In general each report covers a clinical specialty. Since it deals with only part of the survey data it is best considered with others in the series. The information in the report is of wide interest and I hope it will help many hospital administrators.

Reports already published have shown the worth of operational research methods in hospital planning and organisation. In this important work of giving the best possible hospital care to all who need it with resources which are often limited, the words of Charles Steinmetz are well understood -

"Co-operation is not a sentiment - it is an economic necessity".

I am pleased to record the helpfulness of the North Canterbury Hospital Board not only in assisting with the survey but also in implementing many of the recommendations.

H. B. Turbott

# PREFACE

This report is one of a series of administrative papers written by the Operational Research Unit to make recommendations to the North Canterbury Hospital Board and the Department of Health on the provision and organisation of hospital accommodation on the basis of survey data.

It will be well understood by workers in operational research in hospitals that we are indebted to the work of others - the Nuffield Provincial Hospitals Trust, the Operations Research Division of The Johns Hopkins Hospital and the Oxford Regional Hospital Board to name only three. The recording of dependency by day of operation follows work done at Oxford by Jeffery and Barr (unpublished).

We would thank for their co-operation and assistance -

the nurses in charge of wards of Christchurch, Princess Margaret and Burwood Hospitals who daily recorded the patient data and assessed the dependencies;

other members of the nursing staffs of the hospitals especially Mrs M.E.F. Chambers, Matron-in Chief, and Miss J. Taylor and Miss S.C.I. Rolls, Matrons of Princess Margaret and Burwood Hospitals;

Dr T. Morton, Medical Superintendent-in-Chief and Dr C. Dick and Dr J.H. McIntyre, Medical Superintendent of Princess Margaret and Burwood Hospitals;

Mr J. G. Laurenson, Secretary to the Board and his staff.

Acknowledgment is made of the help received from -

Dr R. M. Williams, Director, Applied Mathematics Laboratory and his staff especially with statistical analysis and computer programming;

Mr J.P.M. Cornwall, Senior O. & M. Officer, State Services Commission in the preparation of Parts 1 to 5 of the reports.

The Operational Research Unit personnel during the survey were:

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|---|---|
| Dr I. J. Jeffery, | Physician - Director |
| Miss Shirley M. Lowe, | Nurse Member |
| Mr L. V. Chaplin, | Work Study Member |
| Mr D. Blakeley, | Survey Liaison Officer |
| Mr C. Gardiner, | Medical Statistician. |

It is pleasant to recall the courtesy and co-operation given by the North Canterbury Hospital Board and the staff. The survey was possible only because of this willing assistance and the credit for any worthwhile results are achieved is due in no small measure to the Board.

(4.1) INTRODUCTION

This Part of the report should be read in conjunction with Parts 1, 2 and 3 which refer generally to the Survey in Christchurch.

It concerns patients in the sample whose diagnoses have been selected as "Gynaecological". A list of the diagnoses with the International Classification of Diseases indexes is given in Table 1.

The 19 selected disease-groups are appropriate because:-

a) they include the diagnoses of practically all patients observed in the gynaecological ward at Princess Margaret Hospital and

b) they include, with 3 exceptions, the diagnoses of all patients in the sample who were admitted under the care of a gynaecologist.

Where there was a possibility that either the provisional or the final diagnoses was gynaecological in a broad sense the patient was considered in a 20th disease group "suspected to be gynaecological".

(4.2) THE SAMPLE

The sample consists of 140 women who were in hospital at the start of the survey or admitted during it. They were observed in 5 wards of Christchurch Hospital and in 3 wards of Princess Margaret. None of the sample was in Burwood.

The number of patients observed at the start of the survey, during the survey, and at the end of the survey, is given in Table 2, by hospital and by type of admission.

The patients were in hospital for 1372 days during the survey. The distribution of patient days by hospital, is given in Table 3 and is discussed in Section (4.43).

(4.21) OBSERVATIONS

1) Christchurch and Princess Margaret Hospitals treated 20 and 120 patients of the sample of 140 observed during the survey which covered 88 days for Christchurch and 86 days for Princess Margaret. (Table 2).

2) The 1372 patient days taken with the 127 discharges and deaths during the survey gives a gross average days stay for gynaecology of 10.8 days (Tables 2 & 3).

(4.22) COMMENTS

1) Christchurch treated 14.3% of the patients and Princess Margaret 85.7%. Burwood did not treat any in the six wards observed during the survey.

2) The admission rate during the survey was 420 patients in, say, 86 days. On this basis Christchurch and Princess Margaret admitted gynaecological patients at the annual rate of 247 and 1362.

3) The gynaecological ward A3 is reserved for gynaecological patients but is supported by beds in wards A2 and A1.

4) Comments on patient days are made in paragraph (4.43), and on length of stay, in paragraphs (4.54) and (4.55).

(4.3) THE PATIENTS

This section analyses data associated with admission and discharge. Where possible the diagnosis on discharge is used. In the case of multiple pathology, the diagnosis used is that mainly responsible for the hospital stay.

(4.31) AGE-GROUP

Patients are grouped in the following age-groups in years;

a) 0 - 14
b) 15 - 44
c) 45 - 64
d) 65 and over.

Data are tabulated for Christchurch and Princess Margaret Hospitals in Table 3 which also shows the patient days for each age-group.

(4.32) TYPE OF ADMISSION

Patients were recorded as "Emergency" or "Waiting-List" on admission. The number in each type in each hospital is given, inter alia, in Table 4.

(4.33) REASON FOR ADMISSION

Reasons for admission were taken as:

a) therapy; b) for investigation; c) infectious; d) other.

In the survey (c) infectious, was used only for patients who were admitted because of an infectious condition. The number of patients in each group is given in Table 5.

(4.34) PATIENTS HAVING SURGERY

Surgery is defined in Part 2.

The number of patients having surgery is given for each hospital by type of admission in Table 4.

(4.35) DISEASE GROUPS

Table 6 shows the number of patients in each disease group by hospital and type of admission.

(4.36) OBSERVATIONS

1) The child-bearing age group (15 - 44 years) is predominant and accounts for 88 of the 140 patients. The next largest age group is 45 - 64 years with 40 patients. (Table 3).

2) Nineteen of the 20 patients admitted to Christchurch, were emergency admissions. Princess Margaret had 53 emergency admissions and 67 waiting-list. (Table 4).

3) One hundred and twenty-seven patients were admitted for therapy and 10 for investigation. (Table 5).

4) Seven of 20 patients in Christchurch and 107 of 120 patients in Princess Margaret had surgery. (Table 4).

5) Predominant diagnoses are abortion with 29 patients; utero-vaginal prolapse with 19; disorders of menstruation with 13, and malignant neoplasms (Code 172-176) with 11 patients. (Table 6).

(4.37) COMMENTS

1) The two age groups 15-44 years and 45-64 years together account for 91.4% of the patients. The age group 65 years of age and over accounts for only 5.7% of the patients but for 9% of the patient days.

2) Ninety per cent of the patients were admitted for therapy and of those admitted for investigation, most were emergency patients.

3) Princess Margaret Hospital takes 85.7% of the gynaecological patients and nearly 94% of the gynaecological surgery. Practically all gynaecological waiting-list surgery is done at Princess Margaret Hospital. Patients who have surgery at Christchurch Hospital are mainly those who require deep x-ray therapy.

4) No comment is made on the relative incidence of the diagnoses because of the lack of information on seasonal and other variations.

(4.4) THE LOAD OF PATIENT DAYS

This section deals with the number of days spent in hospital by the patients and with the load of gynaecology in terms of patient days.

(4.41) PATIENT DAYS

The number of patient days associated with the 140 patients is listed by disease group and type of admission for the two hospitals in Table 7 which also shows some corresponding percentages.

(4.42) OBSERVATIONS

1) Gynaecology contributed 1372 patient days of which 144 and 1228 were spent in Christchurch and Princess Margaret Hospitals respectively. (Table 7).

2) At Christchurch Hospital, 126 and 18 patient days were due to emergency and waiting-list admissions respectively. At Princess Margaret corresponding figures were 344 and 884. (Table 7).

3) Three conditions, utero-vaginal prolapse, malignant neoplasms (Code 172-176) and uterine fibromata, essentially waiting-list conditions in the sample, accounted for

nearly 43% of the patient days but only 28% of the patients. On the other hand abortion, essentially an emergency condition, accounted for 9.5% of the patient days but nearly 21% of the patients. (Table 7).

(4.43) COMMENTS

1) Princess Margaret takes 90% of the gynaecological in-patient load in terms of patient days. Christchurch takes the remaining 10% as no gynaecological patients were observed at Burwood.

2) From the one-in-three sample, the survey data correspond to a gynaecological load in Christchurch and Princess Margaret Hospitals of 4116 patient days in, say, 86 days of which Christchurch and Princess Margaret contributed 432 and 3684 patient days.

3) The gynaecological load at Christchurch corresponds to 4.9 beds at 100% occupancy and 5.5 beds at 90% occupancy.

4) The gynaecological load at Princess Margaret of 3684 patient days in 86 days corresponds to 42.8 beds at 100% occupancy and 47.65 beds at 90% occupancy.

5) The gynaecological load for the two hospitals therefore corresponds to, say, 48 beds at 100% occupancy and 53 beds at 90% occupancy. This is further discussed in paragraph (4.72) below.

6) Waiting-list admissions account for 66% of the gynaecological patient days. For a 90% bed occupancy and the 53 beds as above, 18 beds are required for emergency admissions and 35 beds for waiting-list. The significance of this is discussed in paragraph (4.74).

(4.5) LENGTH OF STAY

This section deals with the length of stay recorded for patients who were discharged or who died during the survey. In particular it discusses the length of stay of patients whose diagnoses were either uterine fibromata or utero-vaginal prolapse because these two conditions are used as examples later in this paper. An analysis of abortion (Code 650) is quoted for information only.

(4.51) PATIENTS DISCHARGED

During the survey there were 125 discharges and 2 deaths in the sample of 140 patients. Among those not discharged was one long term patient admitted in September 1961 in the gynaecological ward with a diagnoses of carcinoma of the vulva. The distribution of the length of stay of the 127 patients is given in Table 8 and illustrated in Figure 1.

(4.52) UTERINE FIBROMATA AND UTERO-VAGINAL PROLAPSE

Uterine fibromata and utero-vaginal prolapse are two conditions analysed in the Annual Report of the Medical Statistician by days stay for larger hospitals including Christchurch and Princess Margaret. The distribution of the length of stay for these two conditions as they appear in the sample of patients discharged during the survey is given in Table 9.

(4.53) ABORTION

As this is a common condition, data on length of stay, surgery and type of admission of abortions have been included as Table 10 and Figure 2.

(4.54) OBSERVATIONS

1) In line with the usual method the 127 patients are considered with 1372 patient days.
The average length of stay is 10.8 days.
The range is 1 to 36 days.
The mode is 16 days. (Table 8).

2) Forty-three patients were in hospital 5 days or under; 15 exceeded 16 days. (Table 8).

3) Five patients with uterine fibromata had an average length of stay of 16.6 days with a range of 11 to 22 days. Eighteen patients with utero-vaginal prolapse had an average length of stay of 17.2 days with a range of 16 to 25 days. (Table 9).

4) Twenty-nine patients with abortion had an average length of stay of 4.5 days with a range of 2 to 15 days. The mode is 3 days. (Table 10).

(4.55) COMMENTS

1) For what it is worth, the average length of stay of 10.8 days is close to the 11 days of the Barrow and Furness Study and is also close to the average for "The Manchester Region and the rest of England in general". (The Demand for Medical Care - Forsyth and Logan, Oxford University Press Page 78).

2) There are two maxima in the series of values for length of stay. One occurs at 4 days and the other at 16 days. The first is the order of lengths of stay often seen in emergency conditions such as abortion and "for investigation" - the second which is more sharply defined, corresponds with waiting-list conditions such as uterine fibromata and utero-vaginal prolapse.

3) None of the patients discharged, was in hospital longer than 36 days, but when the survey was completed, one of the 11 patients remaining in hospital had then been in hospital for 369 days.

4) The latest data published by the Medical Statistician for Princess Margaret Hospital shows that the length of stay in the sample for uterine fibromata is 0.7 days lower, and that for utero-vaginal prolapse is 0.8 days higher than in 1960. If the experience

in these two conditions is accepted as a guide, gynaecological pressure on hospital beds during the period of the survey is comparable in general terms with that in 1960, and presumably is normal for the hospital.

5) In the essentially emergency condition of abortion, 69% of patients were discharged in 3 or 4 days.

(4.6) PATIENT DEPENDENCY

This section deals with the daily dependency of the patients. The definitions of the four categories of dependency are given in Part 2. The 140 patients do not all necessarily appear in every table.

(4.61) DEPENDENCY ON ADMISSION AND ON DISCHARGE

The dependencies of patients admitted to Christchurch and Princess Margaret Hospitals during the survey are given for emergency and waiting-list admissions in Table 11. The dependencies on discharge of these discharged during the survey are given in Table 12.

(4.62) PRE-OPERATION DEPENDENCY

The number of days spent in the pre-operation period at Princess Margaret Hospital can be obtained from Table 13 (a) which shows the recorded day on which the surgery was done. The small sample of 7 patients having surgery in Christchurch was distorted by inter-hospital transfers for radio-therapy (which resulted in multiple operations by definition) and is not analysed.

Most patients spend part of the pre-operation period in dependency Category 1. The number of days spent continuously in Category 1 before surgery is recorded in Table 13 (b) for patients having surgery in Princess Margaret during the survey period.

(4.63) POST-OPERATION DEPENDENCY

The number of days in the post-operation period is given in Table 14 (a) for patients discharged from Princess Margaret.

The number of days which these patients spent continuously in dependency Category 1 before discharge and continuously in Category 2 before discharge or becoming Category 1 is given in Tables 14 (b) and 14 (c) respectively.

The number of days spent in either category is necessarily understated in the case of patients who were in hospital at the start of the survey.

(4.64) UTERINE FIBROMATA AND UTERO-VAGINAL PROLAPSE

The dependency histories of 5 patients discharged with the diagnosis of uterine fibromata are given in Table 15. Patients who were in hospital at the start of the survey have their dependencies shown for the recorded days. Similar data for 18 patients with utero-vaginal prolapse are given in Table 16.

(4.65) OBSERVATIONS

1) Of the 126 patients admitted during the survey 4 were in Category 4 on admission. On the other hand 14 of the 69 emergency patients were in Category 1. (Table 11).

2) In the case of emergency admissions 5 of the 18 patients (28%) admitted to Christchurch were in the more dependent Categories (3 and 4) while in Princess Margaret such admissions were 29 of the 51 patients (57%). (Table 11).

3) Of the 127 patients discharged during the survey, the 5 who were in the higher categories died or were discharged to other institutions.
Of the remainder, 20 were discharged in Category 2 but 18 of these were originally emergency admissions. Putting this another way 28% of the emergency patients were discharged in Category 2: the corresponding figure for waiting-list is 3%. (Table 12).

4) Pre-operation recorded days for patients admitted to Princess Margaret range from 1 (surgery within 24 hours of admission) to 19 days.
The mode for emergency admissions is 1 day (22 patients out of 41).
The mode for waiting-list admissions is 3 days (45 patients out of 53), - i.e. surgery between 48 and 72 hours of admission. (Table 13 (a)).

5) In the pre-operation period at Princess Margaret Hospital, 8 emergency patients spent 1 or 2 days in dependency Category 1. Another patient who spent 4 days continuously in Category 1 was admitted to the gynaecological ward with a doubtful diagnosis and was treated for alimentary canal pathology post-operatively. (Table 13 (b)).

6) Forty-eight out of 54 waiting-list patients spent 2 days in Category 1 before operation and 2 spent 3 days. (Table 13 (b)).

7) Post-operation recorded days at Princess Margaret range from 1 to 23 days.
The mode for emergency patients is 2 days (12 patients out of 39).
The mode for waiting-list patients is 13 days (25 patients out of 59). (Table 14 (a)).

8) The number of recorded days spent continuously in Category 1 before discharge ranges from 0 to 4 days for emergency and from 0 to 13 days for waiting-list patients. (Table 14 (b)).

9) The number of days spent continuously in Category 2 before discharge or before becoming Category 1 ranges from 0 to 15 for emergency and 0 to 16 for waiting-list patients. (Table 14 (c)).

10) In the case of the patients with the diagnosis of uterine fibromata,

a) the pre-operation period ranges from 0 to 2 days, the mode is 2 (4 patients out of 5) with both days spent in Category 1.

b) The post-operation period ranges from 10 to 19 days, the mode is 13 (2 patients out of 5), the range of days continuously in Category 1 before discharge is 0 to 5. The range of days continuously in Category 2 before discharge or entering Category 1 is 2 to 15. (Table 15).

11) In the case of patients with the diagnosis of utero-vaginal prolapse,

a) the pre-operation period ranges from 1 to 2 days, the mode is 2 (17 patients out of 18) with both days spent in Category 1.

b) The post-operation period ranges from 13 to 22 days, the mode is 13 (14 patients out of 18), the range of days continuously in Category 1 before discharge is 1 to 10. The range of days continuously in Category 2 before entering Category 1 is 4 to 13. (Table 16).

(4.66) COMMENTS

1) Only 3% of gynaecological patients are admitted to hospital in the most dependent category, Category 4. Many emergency patients are in Category 1 on admission.

2) Observation 4.65(2) suggests that most patients requiring intensive nursing care on admission are admitted to Princess Margaret Hospital but the number of admissions in this category is too small to indicate whether this can be attributed to selection between the two hospitals.

3) In view of the pathology involved, it is understandable that many more emergency patients than waiting-list cases are discharged in Category 2. Nevertheless, the figures suggest that more than 3% of the waiting-list patients could be discharged in this category.

4) It is customary for waiting-list patients to spend 2 days in Category 1 before operation. The number of days in excess of 1 spent in Category 1 before surgery by waiting-list patients is 52 for the 54 patients in Table 13 (b). This corresponds to 156 days in 86 days or 662 days per year and represents 4% of the total gynaecological load. Some hospitals admit similar patients the day before surgery and this point is taken up in later discussion and recommendations.

5) Sixty-one per cent of waiting-list patients spend a post-operative period of 13 days or more in hospital. (Thirteen days is the mode). Nearly 97% of waiting-list patients spend some period post-operatively in Category 1 and 69% spend more than 1 day. The number of days spent post-operatively in Category 1 continuously before discharge by the patients was 212 days. This corresponds to 636 days in 86 days or 2699 days per year. Again some hospitals discharge some patients earlier. The possibility of earlier discharge is discussed later.

6) In many cases the nursing care given to patients recorded in Category 2 is of the type generally referred to as "convalescent", in as much as no item of special nursing care was given to them.

7) The daily dependency histories given for uterine fibromata and utero-vaginal prolapse show the progressions of dependency and are discussed later.

(4.7) DISCUSSION

This section deals with some important matters which could not be discussed conveniently in the previous sections.

(4.71) PERCENTAGE OCCUPANCY

The occupancy of the 30 bed gynaecological ward A3 during the 86 days of the survey period, as recorded by the Hospital Board, was 2314 patient days. The equivalent percentage occupancy is 89.7. Accordingly an occupancy rate of 90% is used below for predicting bed requirements.

(4.72) EQUIVALENT OCCUPIED BEDS

During the survey gynaecological patients used the equivalent of 53 beds at 90% occupancy (Section (4.43) (5)) and of these, 5.5 beds were at Christchurch and 47.65 at Princess Margaret. Table 17 shows how the beds are apportioned between emergency and waiting-list admissions in each hospital and gives a figure of 34.3 equivalent beds for waiting-list admissions at Princess Margaret which will be used below.

(4.73) BED TURNOVER

The 127 deaths and discharges correspond to a discharge rate of 1612 per year. For 53 beds the resultant turnover is 30.4 patients per bed per year. The 34.3 beds regarded as serving waiting-list patients at Princess Margaret have a bed turnover of 22.3 patients per bed per year.

(4.74) THE WAITING-LIST

At the start of the survey in June 1962, there were 310 names on the gynaecological waiting-list which was increasing at the rate of 40 names yearly.

If this is assumed to be the true waiting-list demand, the position may be stated as follows:-

a) In the previous 12 months, discharges of waiting-list patients from both hospitals were at the rate of 776 patients per year.

b) In that time 816 persons were recommended for admission (since the list increased by 40).

c) By March 1963 there would be approximately 340 names on the list but if people on the waiting-list were admitted more or less in rotation, no-one would wait more than $5\frac{1}{2}$ months for admission.

At the bed turnover of 22.3 patients per bed year, mentioned in Section 4.73, 15.2 bed years at 90% occupancy are needed to clear the waiting-list of 340 persons. In other words, the gynaecological waiting-list could be eliminated if 15 further beds were available for 1 year

or 7.5 beds for 2 years and so on, assuming, that other services were available.

The growth in the waiting-list could be checked by providing permanent additional 1.8 beds.

It will be suggested, however, that instead of providing additional beds to check and to eliminate the waiting-list, the same result could be achieved with the present number of gynaecological beds by altering the patterns of admission and discharge.

(4.75) THE GYNAECOLOGICAL IN-PATIENT UNIT

The gynaecological ward, A3, is only part of the gynaecological in-patient accommodation at Princess Margaret Hospital. During the survey period, part of a second ward, A2, and to a much lesser extent, part of A1, were used for gynaecology. With one exception, patients at Princess Margaret were admitted to the gynaecological ward (A3) and those who were treated in ward A2 or A1 were transferred there from A3.

Presumably this organisation existed to make the most effective use of the gynaecological ward A3 by using it in large measure as an admitting ward and as an acute ward.

Although the survey did not specifically record the dates of inter-ward transfers, the records show an association between the day of transfer from the gynaecological ward and the dependency progress of the patient. Patients were sometimes transferred from the ward on the day of operation, but generally the transfer reflected a lessening of the dependency of the patient upon the nursing staff. Some patients transferred were in Category 1. The gynaecological organisation at Princess Margaret Hospital can be said to embody a system of progressive patient care and to provide a strong precedent for the proposal developed in paragraph 4.76 below.

Before turning to this topic, however, it may be noted that the organisation of the gynaecological unit is influenced by the distribution of admissions and discharges by the day of the week. Emergency and waiting-list admissions are given by the day of the week in Table 18 (a). Discharges, excluding deaths are given by the day of the week in Table 18 (b) and the average number of occupied beds as recorded by the Board and the range of values by the day of the week are given in Table 18 (c).

The number of emergency admissions is too small for comment but a high number of waiting-list admissions occurs on Monday and on Wednesday (for surgery on Wednesday and Friday). The number of discharges is high on Tuesday and on Thursday (almost 50%). Bed occupancy is consequently high on Monday, Wednesday and Thursday.

(4.76) PROGRESSIVE PATIENT CARE

Ninety per cent of the sample had surgery associated with a stay in hospital which may be considered in three parts - a pre-operation period, usually in a less dependent state; a period of high or full dependency after surgery; and a period of recovery with diminishing dependency.

In Princess Margaret practically all patients spend the pre-operation period in the gynaecological ward A3 and most of them spend the second period there. Many patients are transferred to ward A2 and some to ward A1 for the third period.

Those transfers relieve pressure on the gynaecological ward and enable it to cope with more emergency and waiting-list admissions. The patients transferred still occupy beds in an acute hospital, however, although in general they are much less dependent on the nursing staff and the expensive services available there. The possibility of discharging some of them at this stage should therefore be considered and if discharge is not desirable, the possibility of transferring them to "convalescent" beds in a less expensive establishment should be examined. By "convalescent care" is meant that kind of care which is variously described as "intermediate care" or "pre-convalescent care" rather than "self-care". Data from the survey support both propositions on the grounds that (a) in Category 1 and even in Category 2, the patient is receiving little in the way of nursing care, and (b) the danger of regression is slight.

On the first point, the definitions of Dependency Categories are given in Part 2 of this report but the main characteristics of Category 1 and 2 may be summarised as follows:-

Category 1. The patient is largely independent for walking, feeding, bathing, and eliminating; is not receiving any special items of nursing care; and is up for at least 4 hours per day.

Category 2. The patient is partly dependent; is receiving some nursing care; and may be up for part of the day. However, she is not usually receiving any of the special services associated with an "acute" hospital and may be discharged in this category.

A review of each gynaecological patient's history in the survey confirms that, with few exceptions, patients in Category 1 and 2 required little nursing care of the kind associated with an acute bed.

On the second point, the danger of regression, there were 5 cases of regression in the post-operation period or in the full stay for non-surgery cases among the 120 patients at Princess Margaret. In one case, a regression from Category 1 to Category 2 was recorded on the last day of stay apparently because a special drug was administered but as the patient was well enough to be discharged, this case is disregarded below. Another regression from Category 1 to Category 2 occurred in the small non-surgical group of 13 patients.

Thus for the 107 patients with some post-operation period within the survey, the regressions in the categories were:-

a) From 1, 2 or 3 to 4 - nil

b) From 1 to 3 - nil

c) From 2 to 3 - 2 patients

d) From 1 to 2 - 1 patient.

On these data for the post-operation period, there is little danger of regression to the acute state of Category 4 or from Category 1 to Category 3. There is a 1 in 50 chance of regression from Category 2 to Category 3 and a 1 in 100 chance of regression from Category 1 to Category 2.

Conceding fully the need for consultants to regard each patient as an individual to be transferred or discharged only on that patient's particular requirements for nursing care, there is still a strong case epidemiologically for proposing that the average length of stay in the gynaecological unit could be shortened without losing - in fact improving - the efficiency of that unit. This proposal is developed in the next section.

(4.77) BEDS REQUIRED

One of the difficulties in assessing bed requirements is to decide when a patient is convalescent or ready for discharge. Nevertheless the dependency categories used in the survey seem to provide a reliable guide on this point. The survey recorded the daily needs of patients as well as their daily dependency. A review of the data shows that, having regard to what is meant by "convalescent" in this context, epidemiologically, gynaecological patients may be said to be "convalescent" after the fourth day in Category 2. Similarly, there is seldom any recorded clinical indication for not discharging a patient from hospital after she has spent one day in Category 1.

Accordingly Table 19 has been prepared to show how the 47.7 equivalent beds at Princess Margaret (rounded up from 47.65 beds in Table 17) would correspond to the various phases of a patient's hospital stay.

Related to the argument developed in the previous section on progressive patient care, the analysis in Table 19 has the following significance in terms of the number of beds needed:-

a) Gynaecological beds at Princess Margaret are used for acute care for only 66% of the time. One third of the time is taken up by patients waiting a second day for waiting-list surgery, by patients "convalescing" and by patients in the least dependent category.

b) Pre-operation time in Category 1 in excess of one day amounted to 4.2% of the time. Elimination of this time alone would check the growth in the waiting-list if the bed time saved could be used.

c) Post-operation time spent continuously in Category 1 in excess of one day before discharge accounted for 15% of the patient days. If this indicates that patients could be discharged earlier, its elimination would make available enough beds to achieve a substantial reduction in the waiting-list.

d) The post-operation time after the fourth day in Category 2 up to the second day in category 1 accounted for 15% of the time. Transfer of these "convalescent" patients to appropriate accommodation would free acute beds for a further reduction of the waiting-list or for other purposes.

To test the practicability of implementing (b) and (c), the effect of a 19% reduction (4.2% plus 15%) in the case of the recorded history of patients with uterine fibromata or utero-vaginal prolapse may be checked against Tables 15 and 16. It would make the average length of stay for the two conditions, 13.6 days and 13.9 days respectively. In both cases this reduced stay still exceeds the average length of stay for such patients in some hospitals both public and private. Again using these two tables, it will be noted that the following summary of the dependency of patients on the 14th day of stay is significant:-

a) For uterine fibromata; 2 patients were in category 1; 2 were in Category 2; and 1 had been discharged.

b) For utero-vaginal prolapse, 13 patients were in Category 1; 4 were in Category 2; and 1 was in an unknown Category but was discharged in Category 1 the following day.

The average length of stay of patients with either of the diagnoses in other hospitals, especially private hospitals, supports the proposition that the gynaecological load could be reduced by about 19% as calculated above. The reduction could be obtained by eliminating the second day before waiting-list surgery and the extra days spent in category 1 as shown in Table 19.

Such a reduction would make beds available for reducing the waiting-list or for other purposes. The total equivalent beds used in Princess Margaret during the survey was 47.7. A 19% reduction would release 9.1 beds of which, on present figures 1.8 could check the growth of the waiting-list, and 7.3 could eliminate it in about 2 years. Alternatively the 7.3 beds could be used for other purposes immediately, but if not, some or all of them could be reallocated once the waiting-list is eliminated.

The preceding paragraph assumes that consultant, nursing and other services can be increased if necessary to make use of the additional beds which become available if a reduction of stay is achieved. The survey of course, throws no light on whether these services can be augmented in this way.

A decision to transfer or discharge a patient after a given number of days in a certain dependency category rests upon a knowledge of the patient's daily progress through the various categories. A record of the appropriate category and the items of nursing care given to the patient each day would materially assist those making such a decision. The development of a suitable record is, however, a subject for separate discussion.

(4.78) PREDICTION OF DEMAND FOR GYNAECOLOGICAL BEDS

Many factors enter into the prediction of the future gynaecological load which public hospitals in the Christchurch area will have to meet. Nevertheless, the survey seems to provide a basis for assessing the number of beds needed if it is assumed that -

a) Private hospitals maintain their present proportion of gynaecological work.

b) Consultant, nursing and other services are expanded to match the availability of beds.

c) There is no significant changes in the age distribution of the local population, or in the incidence or treatment of gynaecological patients.

Last year Christchurch and Princess Margaret Hospitals served a population of 274,000 for gynaecology. The gynaecological load as then organised could be met by 54.8 beds, that is 53 equivalent beds in use plus 1.8 beds to meet the growth in the waiting-list. The volume of gynaecological work falling on the public hospitals thus requires 0.2 beds per 1,000 population.

Using this figure of 0.2 beds per 1,000 population with the Ministry of Works population predictions for the years below and maintaining the ratio of acute to convalescent beds of 2 to 1 (Table 19), future needs are approximately:-

| Year | Acute | Convalescent | Total |
|---|---|---|---|
| 1966 | 41 | 20 | 61 |
| 1971 | 46 | 22 | 68 |
| 1981 | 56 | 28 | 84 |

If the 19% reduction were achieved, the beds are:

| Year | Acute | Convalescent | Total |
|---|---|---|---|
| 1966 | 41 | 9 | 50 |
| 1971 | 46 | 10 | 56 |
| 1981 | 56 | 13 | 69 |

It has been suggested that the 60 bed extension at St Helens Hospital could be available for gynaecology. This report is not the place to discuss the advantages or disadvantages of

the proposal but the figures above show that 60 beds would be adequate for some time to come.

If gynaecological patients needing radiotherapy and a few others continue to go to Christchurch Hospital, 60 beds should provide the acute and convalescent beds required for the present load plus the increase in the waiting-list, for the next few years even without a reduction in the average length of stay.

A reduction in the average stay of any magnitude up to the proposed 19%, would make beds available for a reduction of the waiting-list. Even if the full 19% reduction were not achieved, 60 beds would be likely to be adequate for acute and convalescent beds until the early 1970s. The provision of separate convalescent accommodation for about a dozen beds would then allow 60 beds to cope with the acute gynaecological load for at least another decade.

(4.8) CONCLUSION AND RECOMMENDATIONS

The survey shows that the gynaecological unit at Princess Margaret takes 90% of the gynaecological in-patient work coming to public hospitals in the Christchurch area. The unit sets the pattern of organisation of gynaecological work and the key to this pattern is the use made of the gynaecological ward, A3. The survey data suggest that the hospital should:-

a) Continue to regard ward A3 as the admitting ward and the ward which treats patients in the more dependent states (with the recovery ward taking patients in the most dependent category as necessary).

b) Consider admitting waiting-list patients one day before the day of operation instead of two.

c) Consider discharging patients when they have spent one day in Dependency Category 1 if they have not already been discharged.

d) Consider using convalescent beds (as defined in section 4.76) for patients at the appropriate level of dependency.

If consultant, nursing and other services were augmented as required, the adoption of these proposals would progressively reduce the waiting-list time in gynaecology without an increase in the number of beds used. The average length of stay for gynaecological patients in some public and private hospitals suggests that the adjustments proposed in (b), (c) and (d) are quite practicable.

If the 60 bed extention at St Helens Hospital were made available for gynaecology, and we are not arguing the merits of this, it could accommodate the public hospital gynaecological load (except for radiotherapy) for many years to come. In this event, the merits of organising and equipping it to provide for separate recovery, acute and convalescent beds should be examined.

It is recommended that consideration be given to:-

1) Admitting waiting-list patients one day before operation.

2) Discharging sooner those patients in the lowest dependency state.

3) Transferring to convalescent beds (as defined in section 4.76) patients no longer in need of special nursing care.

4) Introducing a system of recording progressively the patient's dependency category, to assist consultants in discharging or transferring patients.

5) Organising and equipping the gynaecological unit for separate recovery, acute and convalescent beds, if the extension to St Helens Hospital were used for this purpose.

TABLE 1: DISEASE GROUPS FROM THE INTERNATIONAL CLASSIFICATION OF DISEASES (WORLD HEALTH ORGANISATION).

| NO. | INTERNATIONAL CLASSIFICATION (3 DIGIT) | DESCRIPTION OF DISEASE |
|---|---|---|
| 1 | 171 | Malignant neoplasm of cervix. |
| 2 | 172 - 176 | Malignant neoplasms of uterus, ovary, Fallopian tube, broad ligament and other - unspecified female genital organs. |
| 3 | 214 | Benign neoplasm - uterine fibromata. |
| 4 | 215 | Other benign neoplasm of uterus. |
| 5 | 216 | Benign neoplasm of ovary. |
| 6 | 217 | Benign neoplasm of other female genital organs. |
| 7 | 622 - 626 | Diseases of ovary, Fallopian tube and parametrium. |
| 8 | 630 | Infective disease of uterus vagina and vulva. |
| 9 | 631 | Utero-vaginal prolapse. |
| 10 | 632 | Malposition of uterus. |
| 11 | 633 | Other diseases of uterus. |
| 12 | 634 | Disorders of menstruation. |
| 13 | 635 - 637 | Menopausal symptoms, sterility female, other diseases of female genital organs. |
| 14 | 640 - 647 | Complications of pregnancy. |
| 15 | 648 | Other complications arising from pregnancy. |
| 16 | 650 | Abortion without sepsis or toxaemia. |
| 17 | 651 | Abortion with sepsis. |
| 18 | 670 - 678 | Delivery with specified complication. |
| 19 | 680 - 689 | Complications of the puerperium. |

TABLE 2: THE NUMBER OF PATIENTS IN THE SAMPLE BY HOSPITAL AND TYPE OF ADMISSION.

| HOSPITAL | NUMBER OF PATIENTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AT START OF SURVEY | | | ADMITTED DURING SURVEY | | | AT END OF SURVEY | | |
| | E. | W.L. | ALL | E. | W.L. | ALL | E. | W.L. | ALL |
| CHRISTCHURCH | 1 | - | 1 | 18 | 1 | 19 | 2 | - | 2 |
| PRINCESS MARGARET | 2 | 11 | 13 | 51 | 56 | 107 | 4 | 7 | 11 |
| BOTH HOSPITALS | 3 | 11 | 14 | 69 | 57 | 126 | 6 | 7 | 13 |

TABLE 3: THE PATIENTS IN AGE GROUPS BY HOSPITAL

| AGE GROUP (YEARS) | CHRISTCHURCH HOSPITAL | | P.M. HOSPITAL | | BOTH HOSPITALS | | |
|---|---|---|---|---|---|---|---|
| | PATIENTS | PATIENT DAYS | PATIENTS | PATIENT DAYS | PATIENTS | PATIENT DAYS NO. | PATIENT DAYS % |
| 0 - 14 | 2 | 3 | 1 | 1 | 3 | 4 | 0.3 |
| 15 - 44 | 12 | 70 | 76 | 653 | 88 | 723 | 52.7 |
| 45 - 64 | 5 | 63 | 35 | 455 | 40 | 518 | 37.8 |
| 65 - | 1 | 8 | 7 | 116 | 8 | 124 | 9.0 |
| NOT KNOWN | - | - | 1 | 3 | 1 | 3 | 0.2 |
| ALL | 20 | 144 | 120 | 1228 | 140 | 1372 | 100 |

TABLE 4: PATIENTS HAVING SURGERY BY HOSPITAL AND TYPE OF ADMISSION

| HOSPITAL | SURGERY PERFORMED | TYPE OF ADMISSION | | ALL |
|---|---|---|---|---|
| | | EMERGENCY | WAITING LIST | |
| CHRISTCHURCH | YES | 6 | 1 | 7 |
| | NO | 13 | - | 13 |
| | ALL | 19 | 1 | 20 |
| PRINCESS MARGARET | YES | 42 | 65 | 107 |
| | NO | 11 | 2 | 13 |
| | ALL | 53 | 67 | 120 |
| BOTH HOSPITALS | YES | 48 | 66 | 114 |
| | NO | 24 | 2 | 26 |
| | ALL | 72 | 68 | 140 |

TABLE 5: THE REASONS FOR ADMISSION BY HOSPITAL

| HOSPITAL | REASON FOR ADMISSION | | | | | |
|---|---|---|---|---|---|---|
| | THERAPY | INVESTIGATION | INFECTIOUS | OTHER | NOT GIVEN | ALL |
| CHRISTCHURCH | 13 | 6 | - | - | 1 | 20 |
| PRINCESS MARGARET | 114 | 4 | - | - | 2 | 120 |
| BOTH HOSPITALS | 127 | 10 | - | - | 3 | 140 |

TABLE 6: THE PATIENTS IN DISEASE GROUPS BY HOSPITAL AND TYPE OF ADMISSION.

| INTERNATIONAL CODE NO. | DISEASE GROUP | CHCH. HOSPITAL | | | P.M. HOSPITAL | | | BOTH HOSPITALS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | E. | W.L. | ALL | E. | W.L. | ALL | E. | W.L. | ALL |
| 171 | MAL CERVIX | 2 | 1 | 3 | 1 | 2 | 3 | 3 | 3 | 6 |
| 172 - 176 | MAL OTHER | 4 | - | 4 | 1 | 6 | 7 | 5 | 6 | 11 |
| 214 | UT FIBROMA | - | - | - | 1 | 6 | 7 | 1 | 6 | 7 |
| 215 | BEN UTERUS | - | - | - | 1 | 2 | 3 | 1 | 2 | 3 |
| 216 | BEN OVARY | 1 | - | 1 | 2 | 1 | 3 | 3 | 1 | 4 |
| 217 | BEN OTHER | - | - | - | - | 1 | 1 | - | 1 | 1 |
| 622 - 626 | DIS MISC | 2 | - | 2 | - | 2 | 2 | 2 | 2 | 4 |
| 630 | INFECT MISC | 1 | - | 1 | 1 | 4 | 5 | 2 | 4 | 6 |
| 631 | PROLAPSE | - | - | - | - | 19 | 19 | - | 19 | 19 |
| 632 | MALPOSITN | - | - | - | - | 2 | 2 | - | 2 | 2 |
| 633 | OTHER UT | - | - | - | 2 | 4 | 6 | 2 | 4 | 6 |
| 634 | MENSTRN | 3 | - | 3 | 4 | 6 | 10 | 7 | 6 | 13 |
| 635 - 637 | MENOPAUSAL | - | - | - | 1 | 6 | 7 | 1 | 6 | 7 |
| 640 - 647 | COMP PREG | 4 | - | 4 | 4 | - | 4 | 8 | - | 8 |
| 648 | OTHER PREG | - | - | - | 3 | - | 3 | 3 | - | 3 |
| 650 | ABORTION | 1 | - | 1 | 27 | 1 | 28 | 28 | 1 | 29 |
| 651 | SEPTIC AB | - | - | - | - | - | - | - | - | - |
| 670 - 678 | COMP DELIV | - | - | - | - | - | - | - | - | - |
| 680 - 689 | COMP PUER | 1 | - | 1 | - | - | - | 1 | - | 1 |
| - | SUSPECTED TO BE GYNAECOLOGICAL | - | - | - | 5 | 5 | 10 | 5 | 5 | 10 |
| | ALL | 19 | 1 | 20 | 53 | 67 | 120 | 72 | 68 | 140 |

TABLE 7: PATIENT DAYS IN DISEASE GROUPS BY HOSPITAL AND TYPE OF ADMISSION.

| INTERNATIONAL CODE NO. | DISEASE GROUP | CHRISTCHURCH | | | P.M. HOSPITAL | | | BOTH HOSPITALS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | E. | W.L. | ALL | E. | W.L. | ALL | E. | W.L. | ALL NO. | ALL % |
| 171 | MAL CERVIX | 24 | 18 | 42 | 7 | 31 | 38 | 31 | 49 | 80 | 5.8 |
| 172 - 176 | MAL OTHER | 45 | - | 45 | 19 | 153 | 172 | 64 | 153 | 217 | 15.8 |
| 214 | UT FIBROMA | - | - | - | 11 | 86 | 97 | 11 | 86 | 97 | 7.1 |
| 215 | BEN UTERUS | - | - | - | 11 | 22 | 33 | 11 | 22 | 33 | 2.4 |
| 216 | BEN OVARY | 3 | - | 3 | 24 | 16 | 40 | 27 | 16 | 43 | 3.1 |
| 217 | BEN OTHER | - | - | - | - | 13 | 13 | - | 13 | 13 | 0.9 |
| 622 - 626 | DIS MISC | 10 | - | 10 | - | 17 | 17 | 10 | 17 | 27 | 2.0 |
| 630 | INFECT MISC | 6 | - | 6 | 2 | 75 | 77 | 8 | 75 | 83 | 6.0 |
| 631 | PROLAPSE | - | - | - | - | 271 | 271 | - | 271 | 271 | 19.8 |
| 632 | MALPOSITN | - | - | - | - | 23 | 23 | - | 23 | 23 | 1.7 |
| 633 | OTHER UT | - | - | - | 5 | 23 | 28 | 5 | 23 | 28 | 2.0 |
| 634 | MENSTRN | 6 | - | 6 | 17 | 46 | 63 | 23 | 46 | 69 | 5.0 |
| 635 - 637 | MENOPAUSAL | - | - | - | 2 | 48 | 50 | 2 | 48 | 50 | 3.7 |
| 640 - 647 | COMP PREG | 19 | - | 19 | 48 | - | 48 | 67 | - | 67 | 4.9 |
| 648 | OTHER PREG | - | - | - | 28 | - | 28 | 28 | - | 28 | 2.0 |
| 650 | ABORTION | 4 | - | 4 | 115 | 11 | 126 | 119 | 11 | 130 | 9.5 |
| 651 | SEPTIC AB | - | - | - | - | - | - | - | - | - | |
| 670 - 678 | COMP DELIV | - | - | - | - | - | - | - | - | - | |
| 680 - 689 | COMP PUER | 9 | - | 9 | - | - | - | 9 | - | 9 | 0.7 |
| | SUSPECTED TO BE GYNAECOLOGICAL | - | - | - | 55 | 49 | 104 | 55 | 49 | 104 | 7.6 |
| ALL | | 126 | 18 | 144 | 344 | 884 | 1228 | 470 | 902 | 1372 | 100 |
| ALL | | 9.2 | 1.3 | 10.5 | 25.1 | 64.4 | 89.5 | 34.3 | 65.7 | 100 | |

TABLE 8 AND FIGURE 1: DISTRIBUTION OF LENGTH OF STAY OF PATIENTS DISCHARGED DURING SURVEY.

| | NUMBER OF DAYS RECORDED IN HOSPITAL FOR PATIENTS DISCHARGED | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | over 25 | ALL |
| Number of Patients | 3 | 2 | 9 | 17 | 12 | 7 | 6 | 3 | 3 | 1 | 4 | 7 | 5 | - | 3 | 30 | 1 | 2 | 2 | 1 | - | 1 | - | 1 | 2 | 5 | 127 |

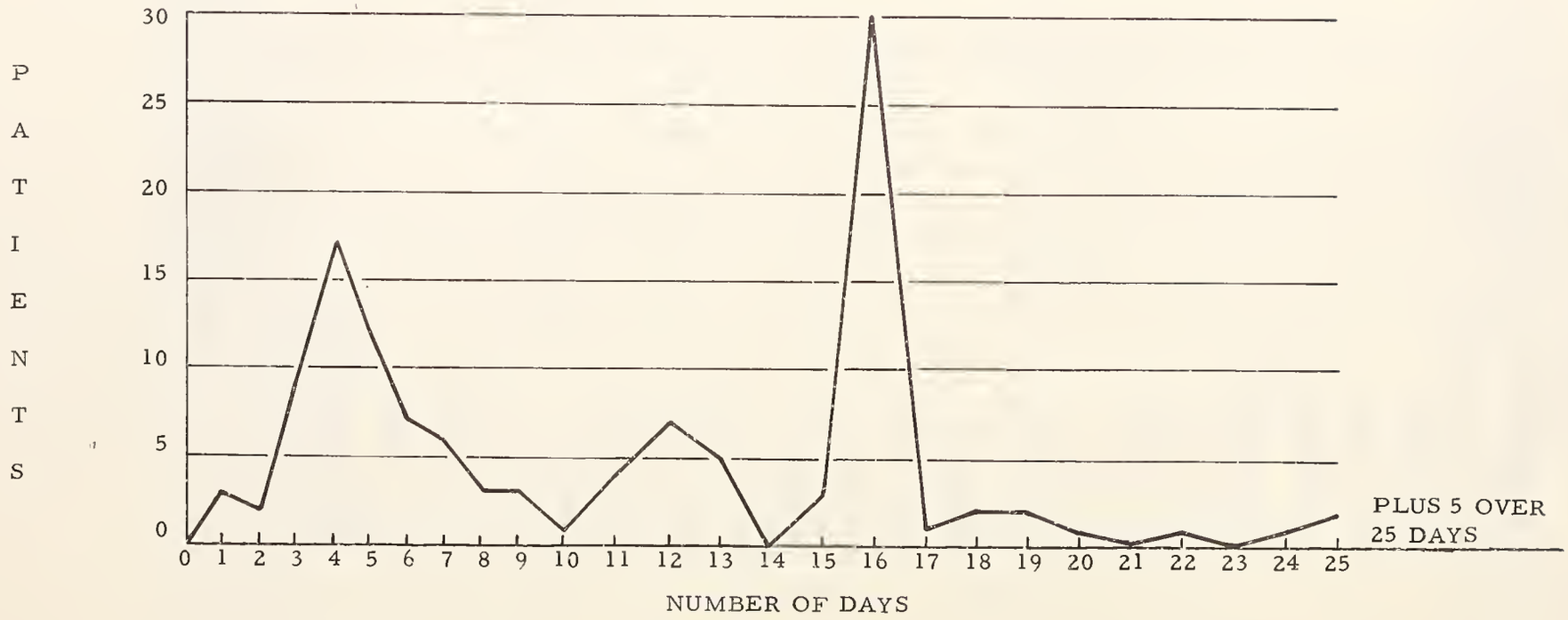

TABLE 9: DISTRIBUTION OF DAYS STAY AND AVERAGE DAYS STAY FOR UTERINE FIBROMATA AND UTERO-VAGINAL PROLAPSE.

| INTERNATIONAL CODE NO. | DISEASE GROUP | NUMBER OF PATIENTS | DISTRIBUTION OF DAYS STAY | DAYS INVOLVED | AVERAGE DAYS STAY |
|---|---|---|---|---|---|
| 214 | UTERINE FIBROMATA | 5 | 1 for 11<br>2 for 16<br>1 for 18<br>1 for 22 | 83 | 16.6 |
| 631 | UTERO-VAGINAL PROLAPSE | 18 | 14 for 16<br>1 for 17<br>1 for 19<br>1 for 24<br>1 for 25 | 309 | 17.2 |

TABLE 10: DATA FOR ABORTION (CODE 650)

| HOSPITAL | TYPE OF ADMISSION | | | SURGERY | | PATIENT DAYS | LENGTH OF STAY | |
|---|---|---|---|---|---|---|---|---|
| | E. | W.L. | ALL | YES | NO | | AVERAGE | RANGE |
| CHRISTCHURCH | 1 | - | 1 | 1 | - | 4 | 4 | 4 |
| PRINCESS MARGARET | 27 | 1 | 28 | 25 | 3 | 126 | 4.5 | 2 - 15 |
| BOTH | 28 | 1 | 29 | 26 | 3 | 130 | 4.5 | 2 - 15 |

FIGURE 2: DISTRIBUTION OF LENGTH OF STAY FOR PATIENTS WITH ABORTION (CODE 650) DISCHARGED DURING THE SURVEY.

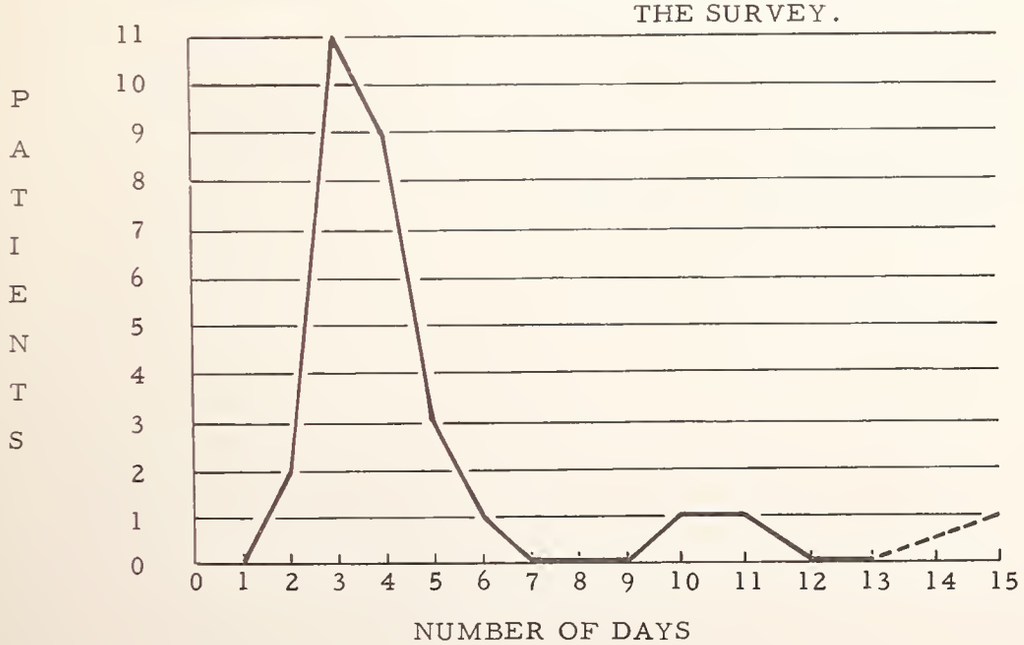

TABLE 11: NUMBER OF PATIENTS ADMITTED DURING SURVEY PERIOD IN THE FOUR DEPENDENCY CATEGORIES BY HOSPITAL AND TYPE OF ADMISSION.

| DEPENDENCY CATEGORY | EMERGENCY | | | WAITING LIST | | | ALL | | |
|---|---|---|---|---|---|---|---|---|---|
| | CH. | P.M. | ALL | CH. | P.M. | ALL | CH. | P.M. | ALL |
| 1 | 6 | 8 | 14 | 1 | 55 | 56 | 7 | 63 | 70 |
| 2 | 7 | 14 | 21 | - | - | - | 7 | 14 | 21 |
| 3 | 5 | 25 | 30 | - | 1 | 1 | 5 | 26 | 31 |
| 4 | - | 4 | 4 | - | - | - | - | 4 | 4 |
| ALL | 18 | 51 | 69 | 1 | 56 | 57 | 19 | 107 | 126 |

TABLE 12: NUMBER OF PATIENTS DISCHARGED OR DIED DURING THE SURVEY PERIOD IN THE FOUR DEPENDENCY CATEGORIES, BY HOSPITAL AND TYPE OF ADMISSION.

| DEPENDENCY CATEGORY | EMERGENCY | | | WAITING LIST | | | ALL | | |
|---|---|---|---|---|---|---|---|---|---|
| | CH. | P.M. | ALL | CH. | P.M. | ALL | CH. | P.M. | ALL |
| 1 | 9 | 34 | 43 | 1 | 58 | 59 | 10 | 92 | 102 |
| 2 | 5 | 13 | 18 | - | 2 | 2 | 5 | 15 | 20 |
| 3 | 3 | 1 | 4 | - | - | - | 3 | 1 | *4 |
| 4 | - | 1 | 1 | - | - | - | - | 1 | *1 |
| ALL | 17 | 49 | 66 | 1 | 60 | 61 | 18 | 109 | 127 |

NOTE: * Of the 5 patients discharged in either category 3 or 4, 2 died and 3 were discharged to another institution.

TABLE 13 (a): NUMBER OF PATIENTS ADMITTED TO PRINCESS MARGARET HOSPITAL DURING THE SURVEY PERIOD WITH DAY OF OPERATION ON THE GIVEN RECORDED DAY.

PRE-OPERATION PERIOD

| TYPE OF ADMISSION | RECORDED DAY | | | | | | | | | | | | | | | | | | | TOTAL PATIENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1* | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |
| EMERGENCY | 22 | 9 | 4 | 2 | - | 1 | 1 | - | - | - | 1 | - | - | - | - | 1 | - | - | - | 41 |
| WAITING LIST | - | 3 | 45 | 3 | - | - | - | - | 1 | - | - | - | - | - | - | - | - | - | 1 | 53 |
| ALL | 22 | 12 | 49 | 5 | - | 1 | 1 | - | 1 | - | 1 | - | - | - | - | 1 | - | - | 1 | 94 |

NOTE: * This is not necessarily the day of admission.

TABLE 13 (b): NUMBER OF PATIENTS ADMITTED TO PRINCESS MARGARET HOSPITAL DURING THE SURVEY PERIOD WITH GIVEN NUMBER OF RECORDED DAYS CONTINUOUSLY IN CATEGORY 1 BEFORE OPERATION.

| TYPE OF ADMISSION | PRE-OPERATION RECORDED DAYS | | | | | PATIENT DAYS INVOLVED |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | |
| EMERGENCY | 34 | 7 | 1 | - | 1 | 13 |
| WAITING LIST | 1 | 3 | 48 | 2 | - | 105 |
| ALL | 35 | 10 | 49 | 2 | 1 | 118 |

TABLE 14 (a): NUMBER OF PATIENTS DISCHARGED FROM PRINCESS MARGARET HOSPITAL DURING THE SURVEY PERIOD WITH GIVEN NUMBER OF POST-OPERATION RECORDED DAYS.

POST-OPERATION PERIOD

| TYPE OF ADMISSION | NUMBER OF RECORDED DAYS | | | | | | | | | | | | | | | | | | | | | | TOTAL PATIENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | |
| EMERGENCY | 6 | 12 | 9 | 2 | 1 | - | 2 | 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | 1 | - | 39 |
| WAITING LIST | 2 | 6 | 3 | 2 | - | 1 | - | 2 | 2 | 1 | 1 | 3 | 25 | 4 | 1 | 1 | 1 | - | 1 | - | 1 | 1 | 1 | 59 |
| ALL | 8 | 18 | 12 | 4 | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 25 | 4 | 1 | 1 | 1 | - | 1 | - | 1 | 2 | 1 | 98 |

TABLE 14 (b): NUMBER OF PATIENTS DISCHARGED FROM PRINCESS MARGARET HOSPITAL DURING THE SURVEY PERIOD WITH GIVEN NUMBER OF RECORDED DAYS CONTINUOUSLY IN DEPENDENCY CATEGORY 1 BEFORE DISCHARGE.

| TYPE OF ADMISSION | POST-OPERATION RECORDED DAYS | | | | | | | | | | | | | | PATIENT DAYS INVOLVED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| EMERGENCY | 9 | 12 | 10 | 7 | 1 | - | - | - | - | - | - | - | - | - | 57 |
| WAITING LIST | 2 | 16 | 7 | 12 | 5 | 4 | 2 | 4 | 2 | 3 | 1 | - | - | 1 | 212 |
| ALL | 11 | 28 | 17 | 19 | 6 | 4 | 2 | 4 | 2 | 3 | 1 | - | - | 1 | 269 |

TABLE 14 (c): NUMBER OF PATIENTS DISCHARGED FROM PRINCESS MARGARET HOSPITAL DURING THE SURVEY PERIOD WITH GIVEN NUMBER OF RECORDED DAYS CONTINUOUSLY IN DEPENDENCY CATEGORY 2 BEFORE DISCHARGE OR BEFORE BEING IN CATEGORY 1.

| TYPE OF ADMISSION | POST-OPERATION RECORDED DAYS | | | | | | | | | | | | | | | | | PATIENT DAYS INVOLVED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
| EMERGENCY | 8 | 19 | 5 | 2 | - | 2 | - | 2 | - | - | - | - | - | - | - | 1 | - | 74 |
| WAITING LIST | 15 | 2 | 6 | 3 | 8 | 5 | 8 | 8 | - | 1 | - | - | - | 1 | - | 1 | 1 | 237 |
| ALL | 23 | 21 | 11 | 5 | 8 | 7 | 8 | 10 | - | 1 | - | - | - | 1 | - | 2 | 1 | 311 |

TABLE 15: PATIENT DEPENDENCY FOR UTERINE FIBROMATA BY RECORDED DAY.

| TYPE OF ADMISSION | RECORDED DAY | | | | | | | | | | | | | | | | | | | | | | | | | TOTAL DAYS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | |
| EMERGENCY | $\frac{4}{OP}$ | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | | | | | | | | | | | | | | | | 11 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | | | $\overline{OP}$ | | | | | | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | | | | | | | | | 18 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 22 |
| | | | | | | | | | | | | | | | | | | | | | | TOTAL | | | | 83 |

TABLE 16: PATIENT DEPENDENCY FOR UTERO-VAGINAL PROLAPSE BY RECORDED DAY.

| TYPE OF ADMISSION | RECORDED DAY | | | | | | | | | | | | | | | | | | | | | | | | | TOTAL DAYS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | |
| W. LIST | | | $\frac{}{OP}$ | | | | | | | | | | | | | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{3}{OP}$ | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | | | | | | | 19 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | | | $\frac{}{OP}$ | | | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 25 |
| W. LIST | | | $\frac{}{OP}$ | | | | | | | | 2 | 2 | 2 | 2 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | | | $\frac{}{OP}$ | | | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{3}{OP}$ | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{3}{OP}$ | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | | 16 |
| W. LIST | 1 | 1 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | | 24 |
| W. LIST | 1 | 1 | $\frac{3}{OP}$ | 3 | 3 | 3 | 3 | 3 | $\frac{3}{OP}$ | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | | | | | | | | | | 17 |
| W. LIST | 1 | 2 | $\frac{4}{OP}$ | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | | | | | | | | | | | 16 |
| | | | | | | | | | | | | | | | | | | | | | | | | | TOTAL | | 309 |

TABLE 17: THE EQUIVALENT NUMBER OF BEDS AT 100% AND 90% OCCUPANCY FOR PATIENTS DISCHARGED DURING THE SURVEY PERIOD BY HOSPITAL AND TYPE OF ADMISSION.

| HOSPITAL | TYPE OF ADMISSION | PATIENTS DISCHARGED * | PATIENT DAYS * | AVERAGE DAYS STAY | EQUIVALENT BEDS | |
|---|---|---|---|---|---|---|
| | | | | | 100% | 90% |
| CHRISTCHURCH | Emergency | 51 | 378 | 7.4 | 4.3 | 4.8 |
| | Waiting List | 3 | 54 | 18.0 | 0.6 | 0.7 |
| | ALL | 54 | 432 | 8.0 | 4.9 | 5.5 |
| PRINCESS MARGARET | Emergency | 147 | 1032 | 7.0 | 12.0 | 13.3 |
| | Waiting List | 180 | 2652 | 14.7 | 30.8 | 34.32 |
| | ALL | 327 | 3684 | 11.3 | 42.8 | 47.65 |
| BOTH HOSPITALS | Emergency | 198 | 1410 | 7.1 | 16.3 | 18.1 |
| | Waiting List | 183 | 2706 | 14.8 | 31.4 | 34.9 |
| | ALL | 381 | 4116 | 10.8 | 47.7 | 53.0 |

* Both patients discharged and patient days are 3 times the observed sample.

TABLE 18 (a): ADMISSIONS BY DAY OF WEEK FOR PRINCESS MARGARET HOSPITAL

| TYPE OF ADMISSION | DAY OF WEEK | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY | ALL |
| EMERGENCY | 7 | 10 | 7 | 12 | 6 | 2 | 7 | 51 |
| WAITING LIST | 30 | 2 | 22 | 1 | - | - | 1 | 56 |
| ALL | 37 | 12 | 29 | 13 | 6 | 2 | 8 | 107 |

TABLE 18 (b): DISCHARGES BY DAY OF WEEK FOR PRINCESS MARGARET HOSPITAL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ALL DISCHARGES | 11 | 25 | 6 | 25 | 15 | 15 | 10 | 107 |

TABLE 18 (c): AVERAGE NUMBER OF OCCUPIED BEDS IN THE GYNAECOLOGICAL WARD (A3) DURING SURVEY.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AVERAGE OCCUPIED BEDS | 29 | 25.8 | 28.7 | 28.8 | 26.8 | 25.3 | 23.9 |
| RANGE | 21 - 35 | 20 - 30 | 22 - 34 | 23 - 33 | 19 - 34 | 21 - 30 | 19 - 32 |

TABLE 19: EQUIVALENT GYNAECOLOGICAL BEDS USED FOR PRE-OPERATION AND POST-OPERATION PERIODS FOR PRINCESS MARGARET HOSPITAL BY "TYPE", NUMBER AND PERCENTAGE.

| PERIOD | DEPENDENCY STATE | EQUIVALENT PATIENT DAYS | BEDS INVOLVED | | |
|---|---|---|---|---|---|
| | | | Type | Equivalent No | % |
| Pre-operation | Category 1 in excess of one | 156 | "Convalescent" | 2 | 4.2 |
| Pre-operation to Post-operation | Category 1 one day pre-operation to 4th day Category 2 | 2418 | "Acute" | 31.3 | 65.6 |
| Post-operation | 5th day Category 2 to end of Category 2 | 303 | "Convalescent" | 3.9 | 8.2 |
| Post-operation | Category 1 for one day | 261 | "Convalescent" | 3.4 | 7.1 |
| Post-operation | Category 1 in excess of one | 546 | "Convalescent" | 7.1 | 14.9 |
| ALL | - | 3684 | - | 47.7 | 100 |

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